1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

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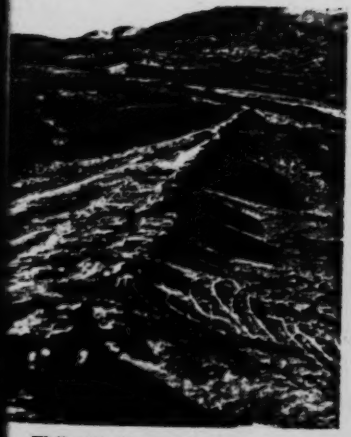
Remains of an ancient wall, Jama el Mujahidin, Ajdir, Beni Urriaghel

Roman remains, Volubilis

Potsherds from the wall at Ajdir



Wall of the Jama el Mujahidin, Ajdir

Green-glazed tile, Ajdir

[facing p. 26]

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3

in the semiarid region south of Melilla. Both varieties sprout vigorously, and both are polymorphic. The latter fact is of major significance, for if the oleaster were a wild species it should be monomorphic, at least in a given area. Chevalier's argument is based upon this point. The seemingly primitive oleasters may be escaped and neglected variants of races that were once cultivated." The longevity of the olive is lengendary; some sprouts in Algeria and Tunisia are almost certainly derived from Roman trees." The fact that some trees have spines and small fruit may not be distinctive. Both varieties probably evolved from *Olea chrysophylla*, the true wild olive of southwestern Asia." The oleaster may be no more difficult to explain than the "wild" pears and apples in the forests of France. It is not unusual for a neglected cultivated plant to become naturalized. Subspontaneous varieties of the cultivated carob tree (*Ceratonia siliqua*) are common in the Mediterranean region. In northern Morocco this tree, cultivated for its edible pods, is widely scattered in the area covered by palmetto scrub. Like the oleaster, it often appears to be a natural element of the maqui.

Shrub Formations

In most of the Mediterranean basin, shrub formations now cover much more territory than do forests (fig. 8). In northern Morocco, shrub vegetation is dominated by dwarf palm or palmetto (*Chamaerops humilis*) and the xerophytic camel thorn (*Zizyphus lotus*). The range of these two species delimits two shrub formations, palmetto scrub and thorn scrub. The first formation is the *Oleo-Lentiscetum* (i.e., *Olea europaea—Pistacia lentiscus*) of most authors, but in northern Morocco neither of these plants is as conspicuous as the palmetto.

The palmetto (Arabic *doum*) is best developed on argillaceous soils in areas of mild temperature and moderate to heavy precipitation (fig. 7). These preferences explain the absence of palmetto in the cool highlands and its rare occurrence in semiarid areas. Dwarf palm may be seen on rocky knolls near Wad Moulouya, but most of the eastern half of northern Morocco is too dry for the species. In the western half of the zone the altitudinal limits of palmetto rise from west to east according to the lessening amount of precipitation.

The popular names "dwarf palm" and "palmetto" as well as the Linnaean binomial (*Chamaerops humilis*), derived from Greek and Latin roots meaning "dwarf or stunted bush," do not suggest that this plant may grow five to ten meters high. Excellent specimens of this height are preserved, however, at the cemeteries of Chella near Rabat and at Asni south of Marrakech. In northern Morocco I have seen tall palmettos on several sacred sites. Palmetto is exploited

[TEXT CONTINUED ON PAGE 25]

[12] H. Camps-Fabrer, *L'Olivier et l'huile dans l'Afrique romaine* (Algiers: Service des Antiquités, 1953), p. 11, states that charcoal from a midden near Tébessa in eastern Algeria "a révélé d'une manière certaine l'existence de l'oléastre en Afrique au Paléolithique Supérieur." But in the study to which she refers—R. le Du and L. Saccardy, "Etude de quelques charbons préhistoriques de la région de Tébessa," *Rev. Africaine*, 88 (1949), 111–119—there is no mention of oleaster. Charcoal of *Phillyrea*, another genus of the olive family, is mentioned, but this adds nothing to the history of *Olea europaea*.

[13] L. Joleaud, "L'ancienneté de la fabrication de l'huile en Afrique du Nord," *Rev. Africaine*, 70 (1929), 19–38.

[14] If this be correct, the present range of the cultivated olive is almost completely separated from that of its ancestor. I. H. Burkill, "Habits of Man and the Origins of the Cultivated Plants of the Old World," *Proc. Linnean Soc. London*, 164 (1951–1952), 12–42, ref. to fig. 2, p. 16.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3

Chapter III

CULTURE HISTORY PRIOR TO EUROPEAN INTERVENTION

For the populations and civilizations that reached it, Morocco was a cul-de-sac. Every movement came up against the Atlantic barrier and was retarded by the hostile environment of the Sahara. During the Pleistocene epoch and, indeed, during the first millennia of Recent geologic time, Morocco was a redoubt in which outmoded ways of life perfected themselves in isolation. The descendants of the Neolithic farmers remained dependent on stone tools three thousand years after the Egyptians, at the other end of the Mediterranean, had begun to use metal. Basically, the Stone Age cultures still persist, in spite of Phoenician, Roman, Arab, and European influence.

The historic accounts of the Canary Islands are of special interest. When the Norman and Spanish conquerors reached the Canaries a few generations before the discovery of America, the islanders spoke a Berber dialect and still retained their Neolithic culture. They used stone tools, and fashioned implements from wood, horn, and shell. They produced crude and underfired pottery in the Neolithic style, and their textiles were plaited matting and basketry. Their clothing was of cured goatskin, and their houses were made of stone, pine timbers, and earth. They raised pigs, dogs, sheep, and goats, and grew barley and wheat. They knew how to preserve meat by drying and milk by making cheese. Add metal, weaving, and the crops and animals introduced from southwestern Asia and the Americas, and this outline of material culture is little different from that of an isolated Moroccan village of today.[1]

The Problem of Climatic Change

A mass of circumstantial evidence suggests that Barbary has become drier since the time of the Roman occupation. The impressive ruins of Thamugadi (Timgad) and the great amphitheater of Thysdrus (el-Jem) now stand on desolate plains. The ancient seaports of Leptis Magna and Sabratha were found buried under an immense drift of sand. Mosaics and historical records tell of the presence in Roman Africa of elephants, lions, and other wild animals now confined to the tropical zone. Further examples of change presumed to be a result of desiccation could be cited, but these suffice to illustrate the type of evidence that impresses the traveler.

It cannot be denied that the landscape of northern Africa has changed since classical time, but the thesis of a climatic explanation of this change is difficult to defend. Most of the evident deterioration can be traced to neglect or destruction by man. Aqueducts, dams, and cisterns made possible the building of the now dead cities. With the collapse of the Pax Romana, marginal land dependent on irrigation went out of cultivation. Burning, cutting, and overgrazing

[1] Leonardo Torriani, *Die kanarischen Inseln und ihre Urbewohner;* trans. from the MS of 1590 by D. J. Wölfel (Leipzig: K. F. Koehler, 1940), Vol. VI of *Quellen und Forschungen zur Geschichte der Geographie und Völkerkunde.* C. S. Coon, in *Caravan: The Story of the Middle East* (New York: Henry Holt, 1951), pp. 36–40, calls attention to the Canary Islanders as "Berbers" unaffected by foreign influence.